

6" High Lumen LED Retrofit Downlight

RLC6HL

4500 & 6000 Lumen
120V-277V
0-10V Dimming

DATE: _____ TYPE: _____

FIRM NAME: _____

PROJECT: _____



Ceiling Cutout: see guide
Maximum Ceiling Thickness 1 1/4"
For conversion to millimeters,
multiply inches by 25.4
Not to Scale

APPLICATIONS:

Retroficient® RLC6HL is a 6" commercial grade Retrofit LED downlight with two available outputs of 4500 and 6000 lumens. The RLC6HL is designed specifically to Retrofit into ceilings with existing recessed downlight fixtures without the need to remove the existing fixture. Rated for a minimum of 50,000 hours life (70% lumen maintenance) with ambient plenum temperatures up to 25°C. Free Air Flow around fixture is required for optimal life performance. Not recommended for outdoor use.

HOUSING:

All components are made from quality die cast aluminum or galvaneal steel. Pre-wired J-box with snap-on cover for easy access. Snap-in connection from driver compartment allows easy installation of light engine/trim assembly and can be upgraded to accommodate technology improvements. Approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.

REFLECTOR:

High purity aluminum, Alzak, iridescence suppressed, semi-diffuse reflector. Self-trim standard. Painted white self-trim (WT) available as option.

LED LIGHT ENGINE:

The RLC6HL uses high power Cree LEDs, specifically mixed to provide a minimum of 80 CRI with 3 SDCM color consistency. The use of multiple high power LEDs allows for optimal thermal management by effectively spreading the heat over a larger area and eliminating hot spots on the LEDs. A diffuse, yet highly transmissive lens obscures the view of the LEDs and creates a smooth, even look from below.

The light engine is available in multiple Kelvin temperatures and the system is designed to provide optimal life and lumen maintenance (50,000 hours at 70% lumen maintenance). The reflector/

light engine assembly is mechanically retained to the housing.

LED DRIVER:

The RLC6HL utilizes a constant current LED driver. This same driver is capable of running all lumen outputs, resulting in a reduction of housing skus and simplified specification. The driver is UL8750, Class II compliant and universal 120V-277V.

DIMMING:

Comes standard with flicker-free 0-10V dimming to 10%. 0-10V to 1% dimming is also available. For the sizing of the control circuit, the dimming circuit may require up to 2mA of sink current.

INSTALLATION:

All installation can be performed from below the ceiling without removing existing fixture.

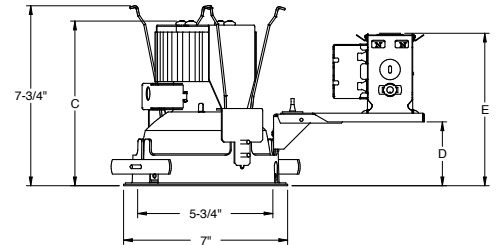
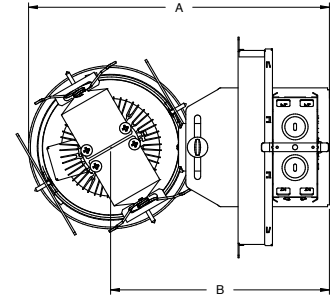
CERTIFICATIONS:

CSA certified to US and Canadian safety standards. Suitable for wet locations. Wall wash option is damp location rated only. Approved for through branch wiring. Non-IC rated. Product is marked spacing and must be installed with the following minimum spacings:
Center to Center of adjacent luminaires : 24"
Minimum Overhead Clearance: 8-1/2"
(To bottom of metal pan)
Center of Luminaire to Side of Building Member : 12"

This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction. Materials under Trade Agreements effective 6/10/2020. See [Buy American Solutions](#).

WARRANTY:

5 year warranty. See [www.prescolite.com](#) for details.



	A	B	C	D	E
RLC6HL	13"-15"	9-3/4"- 11-3/4"	7-1/4"	2-1/2"- 3-3/4"	6-1/4"- 7-1/2"

Order housing, reflector, and accessories separately

CATALOG NUMBER:

EXAMPLE: RLC6HL-6LCHL45L30K9WT

HOUSING	DRIVER OPTION	HOUSING OPTION	TRIM APERTURE	OUTPUT	KELVIN	CRI	REF. FINISH/ COLOR OPTION	REFLECTOR OPTIONS	ACCESSORIES
<input type="checkbox"/> RLC6HL⁴ High Lumen 0-10V Dimming to 10% 120V-277V	Standard 0-10V 10% Dimming <input type="checkbox"/> DM1 0-10V 1% Dimming	<input type="checkbox"/> SD Small Diameter	<input type="checkbox"/> 6LCHL High Lumen Clear Alzak Reflector	<input type="checkbox"/> 45L 4500 Lumen <input type="checkbox"/> 60L 6000 Lumen	<input type="checkbox"/> 27K 2700 Kelvin <input type="checkbox"/> 30K 3000 Kelvin <input type="checkbox"/> 35K 3500 Kelvin <input type="checkbox"/> 40K 4000 Kelvin <input type="checkbox"/> 50K 5000 Kelvin	<input type="checkbox"/> 8 80+ CRI <input type="checkbox"/> 9 90+ CRI	Standard Semi-Diffuse Clear Alzak <input type="checkbox"/> WH Painted Matte White Reflector and Flange	<input type="checkbox"/> WT Painted White Flange only <input type="checkbox"/> WF Wide Flange Reflector and Flange <input type="checkbox"/> WW³ Wall Wash	<input type="checkbox"/> RWD6² Retrofit Wide Diameter Housing kit (6") <input type="checkbox"/> LiteGear¹ Inverter, single phase central lighting, 125VA- 250VA

¹ See Central Inverter compatibility note and web link on page 4.

² See housing compatibility guide for hole diameter compatibility

³ Damp Location only.

⁴ Not suitable for outdoor use.



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In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product.
Web: [www.prescolite.com](#) • Tech Support: (888) 777-4832

RTF-026

PHOTOMETRIC DATA

Retroficient® - 6" RLC6HL Downlight

DRIVER DATA	6LCHL45Lxxxx	6LCHL60Lxxxx
Input Voltage	120-277V	120-277V
Input Frequency	50/60 Hz	50/60 Hz
Input Current	0.433 (120v) 0.187 (277v)	0.566 (120v) 0.245 (277v)
Input Power	52W	68W
Constant Current Output	1.826A	1.826A
Power Factor	≥0.90	≥0.90
THD	<22%	<16%
EMI Filtering	FCC Title 47 Part 15, Class A	FCC Title 47 Part 15, Class A
Operating Temperature	-30°C to 35°C	-30°C to 30°C
Dimming	0-10V	0-10V

Lumen Multiplier Table

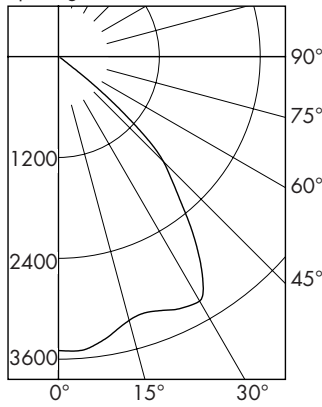
Photometrics for the RLC6HL are published below at a nominal 3000 Kelvin temperature. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.

5000 Kelvin	1.14
4000 Kelvin	1.03
3500 Kelvin	1.00
3000 Kelvin	1.00
2700 Kelvin	.91
90 CRI	.83

Over-voltage, over-current, short-circuit protected

RLC6HL 6LCHL60L30K8

LED Light Engine: 3000K, 80 CRI
System Wattage: 68.4W
Fixture Delivered Lumens: 6071
Fixture Efficacy: 88.8
Spacing Criteria: 1.3



CANDELA DISTRIBUTION

DEG	CANDELA
0	3497
5	3501
15	3249
25	3318
35	2925
45	1767
55	75
65	16
75	5
85	2
90	0

Test No. 16.00491

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LUMINAIRE
0-60	6046	99.6
0-90	6071	100.0
90-180	0	0.0
0-180	6071	100.0

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average
45°	149108
55°	7802
65°	2259
75°	1153
85°	1369

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

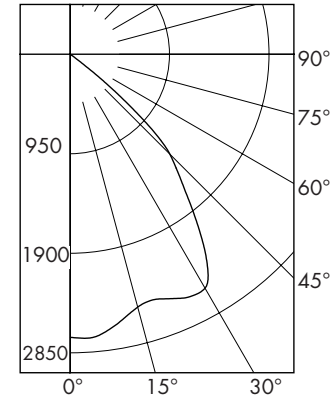
Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%		70%		50%		30%		10%								
	70	50	30	10	70	50	30	10	50	30	10						
% 20% Effective Floor Cavity Reflectance																	
% Wall Reflectance																	
1	113	109	107	104	110	107	105	102	103	101	99	99	98	96	96	95	93
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85
3	99	91	86	81	97	90	85	80	87	83	79	85	81	78	82	79	76
4	93	84	77	72	91	82	76	72	80	75	71	78	74	70	76	72	69
5	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	63
6	81	70	63	58	79	70	63	58	68	62	58	67	61	57	65	60	57
7	76	65	58	53	74	64	57	53	63	57	52	62	56	52	60	55	52
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	43	40

RLC6HL 6LCHL60L30K8

Test No. 16.00491

RLC6HL 6LCHL45L30K8

LED Light Engine: 3000K, 80+ CRI
System Wattage: 52.1W
Fixture Delivered Lumens: 4655
Fixture Efficacy: 89.3
Spacing Criteria: 1.3



CANDELA DISTRIBUTION

DEG	CANDELA
0	2702
5	2709
15	2499
25	2568
35	2224
45	1349
55	61
65	11
75	3
85	2
90	0

Test No. 16.00492

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LUMINAIRE
0-60	4638	99.6
0-90	4655	100.0
90-180	0	0.0
0-180	4655	100.0

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average
45°	113835
55°	6346
65°	1553
75°	692
85°	1369

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%		70%		50%		30%		10%								
	70	50	30	10	70	50	30	10	50	30	10						
% 20% Effective Floor Cavity Reflectance																	
% Wall Reflectance																	
1	113	109	107	104	110	107	105	102	103	101	99	99	98	96	96	95	93
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85
3	99	91	86	81	97	90	85	80	87	83	79	85	81	78	82	79	76
4	93	84	77	72	91	83	76	72	80	75	71	78	74	70	76	72	69
5	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	63
6	81	71	63	58	79	70	63	58	68	62	58	67	61	57	65	60	57
7	76	65	58	53	74	64	57	53	63	57	52	62	56	52	60	55	52
8	71	60	53	48	70	59	53	48	58	52	48	57	52	48	56	51	47
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	43	40

RLC6HL 6LCHL45L30K8

Test No. 16.00492

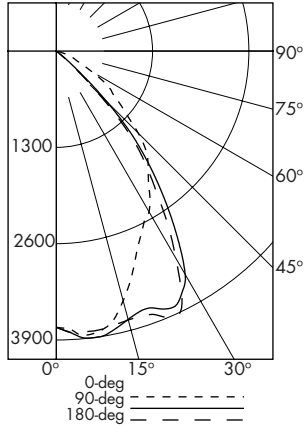


PHOTOMETRIC DATA

Retroficient® - 6" RLC6HL Downlight

RLC6HL 6LCHL60L30K8WW

LED Light Engine: 3000K, 80+ CRI
System Wattage: 70.9W
Fixture Delivered Lumens: 5822
Fixture Efficacy: 82.1



CANDELA DISTRIBUTION			
DEG	0	90	180
0	3728	3728	3728
5	3849	3879	3806
15	3489	3749	3758
25	2719	3799	3920
35	2171	2672	2404
45	1564	964	771
55	888	24	25
65	303	8	9
75	69	4	5
85	10	0	0
90	0	0	0

Test No. 16.01448

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	0 DEG	90 DEG	180 DEG
45°	121209	74709	59752
55°	84841	2293	2389
65°	39290	1037	1167
75°	14610	847	1059
85°	6288	0	0

MULTIPLE UNITS			
UNITS ON 8' CENTER		UNITS ON 8' CENTER	

5' DISTANCE WALLWASH FIXTURES MOUNTED OUT FROM WALLS FOOTCANDLE DISTRIBUTION ON WALL SURFACE

DISTANCE FROM CEILING IN FEET	UNITS ON 8' CENTER			UNITS ON 8' CENTER		
	16	6	16	16	6	16
3	16	6	16	16	6	16
6	21	17	21	21	17	21
9	16	18	16	16	18	16
12	17	18	17	12	13	12
15	18	18	18	10	10	10
18	19	18	19	8	7	8
21	19	18	19	6	6	6
24	17	17	17	4	4	4
27	15	14	15	3	3	3

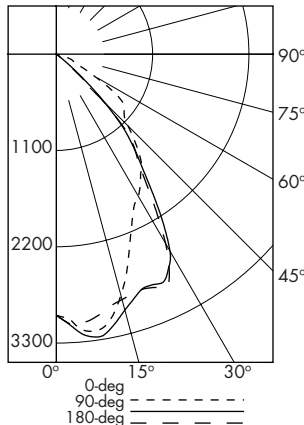
RLC6HL 6LCHL60L30K8WW

Test No. 16.01448

Note: Left chart includes an additional 2 rows of 6LCHL60L downlight units on 8' centers. Right chart shows wall wash only.

RLC6HL 6LCHL45L30K8WW

LED Light Engine: 3000K, 80+ CRI
System Wattage: 52.5W
Fixture Delivered Lumens: 4535
Fixture Efficacy: 86.4



CANDELA DISTRIBUTION			
DEG	0	90	180
0	2982	2982	2982
5	3151	3198	3086
15	2852	3026	2902
25	2061	2878	2946
35	1679	1895	1779
45	1159	780	759
55	894	20	19
65	228	5	6
75	62	3	3
85	4	0	0
90	0	0	0

Test No. 16.01449

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	0 DEG	90 DEG	180 DEG
45°	89822	60449	58822
55°	85414	1911	1815
65°	29564	648	778
75°	13127	635	635
85°	2515	0	0

MULTIPLE UNITS			
UNITS ON 8' CENTER		UNITS ON 8' CENTER	

5' DISTANCE WALLWASH FIXTURES MOUNTED OUT FROM WALLS FOOTCANDLE DISTRIBUTION ON WALL SURFACE

DISTANCE FROM CEILING IN FEET	UNITS ON 8' CENTER			UNITS ON 8' CENTER		
	15	5	15	15	5	15
3	15	5	15	15	5	15
6	16	15	16	16	15	16
9	13	14	13	13	14	13
12	13	14	13	10	10	10
15	14	14	14	8	7	8
18	15	14	15	6	6	6
21	14	14	14	5	4	5
24	13	13	13	3	3	3
27	11	11	11	3	3	3

RLC6HL 6LCHL45L30K8WW

Test No. 16.01449

Note: Left chart includes an additional 2 rows of 6LCH45L downlight units on 8' centers. Right chart shows wall wash only.

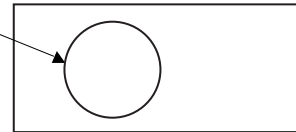


Dimming Compatibility Table

Dimming Ballast	Manufacturer	Web Link
DM/DM1	Lutron DDTV	http://bit.ly/11jSvZg
DM/DM1	Leviton AWRMG-7xx, AWSMG-7xx, AWSMT-7xx	http://bit.ly/1Bjn2R9

HOUSING COMPATIBILITY GUIDE		
ORDERING GUIDELINES	6 INCH	
	MIN	MAX
REQUIRES SD HOUSING OPTION	5-15/16	6-1/8
ALL STANDARD HOUSINGS	6-1/8	6-1/2
REQUIRES RWD KIT ACCESSORY & WF REFLECTOR OPTION	6-1/2	6-7/8

Dimensions shown are for the diameter of the frame flange at it's narrowest point



Central Inverters

For full fixture output in back-up mode, we recommend you visit www.dual-lite.com for your Central Lighting Inverter options. Please contact your local Hubbell representative for any assistance with proper sizing and loading of your inverter selection. Central lighting inverters must be ordered separately.

LiteGear: www.dual-lite.com/products/litegear_lg_series